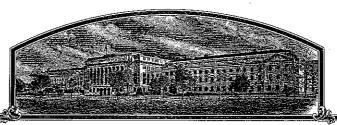
No.



200500022

HHE UNIHED STAYIES OF AMERICA

TO ALL TO WHOM THESE PRÉSENTS SHALL COME;

West Bred, TIG

MICCORS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HERS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY HEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC SUBGISSIMENT OF VIABLE BASIC SEED OF THE VARIETY IN APPUBLIC REPOSITORY AS PROVIDED BY LAW, THE HIT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR VING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Triple IV'

In Testimonn Thereof, I have hereunto set my hand and caused the seal of the Plant Pariety Frotestion Office to be affixed at the City of Washington, D.C. this twenty-fifth day of March, in the year two thousand and five.

Attost

Commissioner
Plant Variety Protection Office

Plant Variety Protection Office Agricultural Marketing Service L'Agriculturo

November 19, 2004

16.a. Exhibit A. Origin and Breeding History

"Triple IV" (Exp. # BZ 996-444) is a hard red spring wheat that originated from the cross of "Fergus/Rambo//Fortuna/WestBred 906R". The final cross was made by WestBred, LLC near Phoenix, AZ in 1994. The F1 plants were planted near Bozeman, MT, in the spring of 1994, and the F2 seed harvested in September 1994. The F2 seed was planted in November, 1994 near Phoenix, AZ. Individual F2 heads were harvested in April, 1995 and the F3 seed planted as individual 7' rows near Bozeman, MT, in May, 1995. Individual heads were harvested from agronomically acceptable rows and the F4 seed was planted as 7' single rows again near Bozeman in May, 1996. The F4 rows were observed for agronomic appearance and one of the rows was harvested and given the designation, BZ 996-444. Grain from the F4 row and subsequent generations, F5-F9, was tested for bread making quality by measuring test weight, percent protein, SDS sedimentation and the five-gram mixograph mix time and stability. Yield trials, along with quality analysis for hard red spring wheat, were conducted on the F4 thru F11 generations in WestBred, LLC, hard red spring wheat trials across Montana. The F5 and later generation yield trials in north central Montana indicated that this line exhibited a solid stem and was tolerant to the wheat stem sawfly. As this line was solid stem and awnless, BZ 996-444 was entered into forage trials in the San Joaquin Valley of California in November 1999. These trials demonstrated that BZ 996-444 was very early, with high forage potential, and would fit into a wheat forage/corn silage rotation. Continued testing of BZ 996-444 (2000-2003) confirmed that it is a good forage variety (Table 5). BZ 996-444 is also tolerant to the current races of stripe rust, leaf rust and powdery mildew found in the San Joaquin Valley. Table 1 provides agronomic performance from several locations. Table 2 provides quality data.

Forty individual heads were harvested from an F8 plot in September 2001 and planted as head rows near Yuma, AZ in the fall of 2001. In late April of 2002, uniform rows were harvested, bulked and the bulk seed planted in May, 2002 near Bozeman, MT. This seed was harvested in August, 2002 and designated Breeder seed. The Breeder seed was planted on approximately 40 acres near Lamoore, CA, in December, 2002. Production from this field was harvested in June,





November 29, 2004

RE: Application No. 200500022, Wheat, Common, 'Triple IV'

Dear Mr. Hermeling,

I have realized I used the wrong naming in the variety 'Rambo'. It should have read 'WestBred Rambo'.

WestBred Rambo was release by Western Plant Breeders in 1986 as a sawfly tolerant hard red spring wheat variety. WestBred Rambo occupied up to 29% of the spring wheat acreage in Montana in the early to mid 1990's. It was developed from a Male Sterile Facilitated Recurrent Selection Population. The basic male sterile population was originally obtained from Mr. Rex Thompson of the University of Arizona at the Mesa Experiment Station. Mr. Thompson constructed this spring MSFRSP (Wheat Germplasm CCA-1977) utilizing two male sterile lines from the variety 'Siete Cerros 66' and many public varieties and breeding lines as males. The following varieties and experimental lines were crossed onto male sterile plants in this population to develop the population from which WestBred Rambo was selected: Len, James, Olaf, Era, Butte, Waldron, Eureka, Chris, Solar, Kitt, Angus, Colamo, PR 2360, SD 8011, SD 8014, SD 8015, and SD 2868. (PR = Pioneer, SD = South Dakota).

Please let me know if you need more information.

Sincerely,

Dale R. Clark, Ph.D. Barley and Wheat Breeder dclark@westbred.com

2003, as Foundation and Registered seed. Foundation and Registered seed was planted in the fall of 2003 in Arizona and California and seed from these fields was harvested in June, 2004 as Certified seed. At that time, the name "Triple IV" was chosen for the variety. The first unencumbered sale of "Triple IV" occurred November, 2004.

A variant that is similar to "Triple IV", but is 4 to 8 inches taller, occurs at a frequency of up to .08% (8 per 10,000 plants). Also, a white seed variant may occur at a frequency of up to 0.1% (10/10,000 seed). Otherwise, "Triple IV" is a stable and uniform variety in appearance and performance across several generations (F4 to F11) and growing conditions.

16.b. Exhibit B. Statement of Distinctness

Triple IV is most similar to the variety Fortuna. However, Fortuna is long day sensitive and Triple IV is not. In the Southwestern states (e.g. Arizona) Fortuna will not head until around the first week of April (when planted in late November, or early December) whereas Triple IV will head around the 10^{th} to the 15^{th} of March, and in the Intermountain States (e.g. Montana) Triple IV is 3.5 days earlier heading than Fortuna when spring planted, (t test with 6 paired comparisons P = 0.28 that they are similar) Table 3. Also, Triple IV is approximately 6 inches shorter than Fortuna in the Intermountain states and 14 inches shorter than Fortuna when planted in the Southwest desert (t test with 11 paired comparisons $P = 2.65 \times 10^{-5}$ that they are similar) Table 4.

The above comparison, along with the complete Objective Description (Exhibit C) shows Triple IV to be a novel variety of hard red spring wheat.

Table 1. Agronomic data comparing Triple IV to check varieties in WestBred,LLC trials from 1997 - 2002 (12 locations).

	Heading				•	
	Date	Plant Ht.	Test Wt.	Protein	SDS	Yield
<u>Variety</u>	(Julian)	(inches)	<u>lbs/bu</u>	<u>%</u>	<u>Sedimentation</u>	bu/ac
Triple IV	186	32	59	15.1	125	64.5
Conan	188	30	59	14.4	129	63.2
Fortuna	200	38	60	14.3	118	60.8



Table 2. Milling and baking quality data comparing Triple IV to check varieties in WestBred,LLC 1999 trials.

	Flou	Jr		Mixogra	ph		Bake Data
<u>Variety</u>	<u>Protein</u>	<u>Yield</u>	Abs%	<u>Minutes</u>	<u>Tolerance</u>	Abs.	Loaf vol. cc
Triple IV	12.9	68.9	71.5	6.7	4.8	72.3	1125
Conan	12.9	65.1	71.8	7.6	5.0	72.6	1153
Fortuna	12.8	69.6	71.3	3.8	2.5	72.1	973

Table 3. Heading dates (Julian) of Triple IV compared to Fortuna.

<u>Year</u>	<u>Location</u>	Triple IV	<u>Fortuna</u>
1997	Bozeman, MT	183	187
1998	Bozeman, MT	184	188
1999	Bozeman, MT	192	195
2000	Bozeman, MT	178	182
1999	Yuma, AZ	70	89
2000	Yuma, AZ	75	101

Probably of being equal P = 0.028

Table 4. Plant height (inches) of Triple IV compared to Fortuna.

<u>Year</u>	<u>Location</u>	Triple IV	<u>Fortuna</u>
1997	Bozeman, MT	38	44
	Conrad, MT	30	35
	Pendroy, MT	30	38
1998	Bozeman, MT	34	43
	Conrad, MT	26	36
	Pendroy, MT	35	44
	Denton, MT	28	34
1999	Bozeman, MT	33	40
	Conrad, MT	30	32
	Pendroy, MT	31	33
	Yuma, AZ	<u>40</u>	54
		32.3	39.4

Probability of them being equal $P = 2.65 \times 10^{-5}$



Table 5. Data from WestBred, LLC 2004 California forage trial near Visalia, CA.

ENTRY	Harvest <u>Stage</u>	Harvest <u>Date</u>	Yield tons/ac	% <u>H2O</u>	Yield t/ac <u>DM</u>	% <u>Protein</u>	Lbs of Milk/Ton	Lbs of Milk/Ac.
Triple IV	med. Dough	12-Apr	21.04	64.5	7.47	8.4	2045	15275
Triple IV	boot-32 in.	9-Mar	23.39	78.9	4.94	10.7	2330	11499
Triticale 96	boot-26 in.	9-Mar	20.74	80.5	4.04	11.8	3015	12194
Summit	joint-22 in.	9-Mar	15.81	79.1	3.30	11.4	2521	8330

Form Approved OMB NO 0581-0055

REPRODUCE LOCALLY, include form number and date on all reproductions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY **PLANT VARIETY PROTECTION OFFICE** BELTSVILLE, MD 20705

Exhibit C

OI	BJECTIVE DESCRIPTION OF N Wheat (<i>Triticum</i> spp.)	VARIETY
NAME OF APPLICANT (S) West Bred, LLC	TEMPORARY OR EXPERIMENTAL DESIGNATION BZ 996-444	VARIETY NAME Triple IV
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country) 8111 Timberline Drive Bozeman, MT 59718	-8184	PVPO NUMBER 200500022
when number is either 99 or less or 9 or less respective should be determined from varieties entered in the sail	tal character of this variety in the boxes below. rely. Data for quantitative plant characters sho me trial. Royal Horticultural Society or any reco	Place a zero in the first box (e.g., 0 9 9 or 0 9) uld be based on a minimum of 100 plants. Comparative data ognized color standard may be used to determine plant colors; ons for your variety; lack of response may delay progress of
1. KIND: 1 = Common 2 = Durum 3 = Club 4 = Other (Specify)	2=1	TION: Spring Winter Other (Specify)
3. COLEOPTILE ANTHOCYANIN: 1 = Absent 2 = Present	4. JUVENILE PL	ANT GROWTH: = Prostrate 2 = Semi-Erect 3 = Erect
5. PLANT COLOR: (boot stage) 1 = Yellow-Green 2 = Green 3 = Blue-Green	2 1 = 1	(boot stage) Erect 2 = Recurved Not Twisted 2 = Twisted Wax Absent 2 = Wax Present
7. EAR EMERGENCE: O 6 3 Number of Days (Average) Number of Days Earlier Than Same As Number of Days Later Than *	Fortuna Zeke Tara - 2000 lative to a Commercial Variety Grown in the Sa	ame Trial
8. ANTHER COLOR: 1 = Yellow 2 = Purple		

	IT HEIGHT: (from soil to top of head, excluding awns)	
05	1 2 2	
[0]5		*
1 2	Same As West Bred 906R	*
1 3	cm Shorter Than Fortuna	*
10. STE	M:	
A. A	ANTHOCYANIN	D. INTERNODE
1	1 = Absent 2 = Present	3 1 = Hollow 2 = Semi-Solid 3 = Solid
		4 Number of Nodes
B. V	NAXY BLOOM	E. PEDUNCLE
2	1 = Absent 2 = Present	1 = Erect 2 = Recurved 3 = Semi-Erect
		28 cm Length
C. H	HAIRINESS (last internode of rachis)	F. AURICLE
2	1 = Absent 2 = Present	2 Anthocyanin 1 = Absent 2 = Present
•		Hair: 1 = Absent 2 = Present
11. HEA	D: (at maturity)	
Α. [DENSITY	C. CURVATURE
2	1 = Lax	2 1 = Erect 2 = Inclined
	2 = Mid-dense (Laxidense) 3 = Dense	2 = Inclined 3 = Recurved
B. S	HAPE	D. AWNEDNESS
2	1 = Tapering 2 = Strap	2 1 = Awnless 2 = Apically Awnletted
	3 = Clavate 4 = Other (Specify)	3 = Awnletted 4 = Awned
40. 01.111		T - AWIICU
	MES: (at maturity)	
A. U	OLOR A MINI	E. BEAK WIDTH
	1 = White 2 = Tan	2 1 = Narrow 2 = Medium
Б. С	3 = Other (Specify)	3 = Wide
	HOULDER	F. GLUME LENGTH
4	1 = Wanting 2 = Oblique 3 = Rounded 4 = Square	3 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm)
	5 = Elevated 6 = Apiculate 7 = Other (Specify)	3 = Long (ca. 9mm)
C. S	HOULDER WIDTH	G. WIDTH
3	1 = Narrow	3 1 = Narrow (ca. 3mm)
	2 = Medium 3 = Wide	2 = Medium (ca. 3.5mm) 3 = Leng (ca. 4mm)
D. BI	EAK	wide
	1 = Obtuse	
Ľ	2 = Acute 3 = Acuminate	

13. SE	ED:			
A.	SHAPE		E. COLOR	
3	1 = Ovate 2 = Oval 3 = Elliptical		3 1 = White 2 = Amber 3 = Red 4 = Other (Specify)	
В.	CHEEK		F. TEXTURE	
2	1 = Rounded 2 = Angular		1 = Hard 2 = Soft 3 = Other (Specify)	
C.	BRUSH		G. PHENOL REACTION	٠
3	1 = Short 2 = Medium 3 = Long 1 = Not Collared 2 = Collared		1 = Ivory 4 = Dark- Brown 2 = Fawn 5 = Black 3 = Light- Brown	
D.	CREASE		H. SEED WEIGHT	
2	1 = Width 60% or less of Kernel 2 = Width 80% or less of Kernel 3 = Width Nearly as Wide as Kernel		4 O g/1000 Seed (whole number only)	
2	1 = Depth 20% or less of Kernel		I. GERM SIZE	
2	2 = Depth 35% or less of Kernel 3 = Depth 50% or less of Kernel		1 = Small 2 = Mid-Size 3 = Large	
14. DIS	EASE: (0 = Not Tested 1 = Susceptible 2 = Resistant	t .	3 = Intermediate 4 = Tolerant)	
	PLEASE INDICATE THE	SPE	CIFIC RACE OR STRAIN TESTED	
0	Stem Rust (Puccinia graminis f. sp. tritici)	3	Leaf Rust (Puccinia recondita f. sp. tritici)	
4	Stripe Rust (Puccinia striiformis)	0	Loose Smut (Ustilago tritici)	
0	Tan Spot (Pyrenophora tritici-repentis)	0	Flag Smut (Urocystis agropyri)	
0	Halo Spot (Selenophoma donacis)	0	Common Bunt (Tilletia tritici or T. laevis)	
0	Septoria nodorum (Glume Blotch)	0	Dwarf Bunt (Tilletia controversa)	
0	Septoria avenae (Speckled Leaf Disease)	0	Karnal Bunt (Tilletia indica)	
0	Septoria tritici (Speckled Leaf Blotch)	0	Powdery Mildew (Ersiphe graminis f. sp. tritici)	
0	Scab (Fusarium spp.)	0	"Snow Molds"	
1	"Black Point" (Kernel Smudge)	0	Common Root Rot (Fusarium, Cochliobolus and Bipolaris spp.)	
0	Barley Yellow Dwarf Virus (BYDV)	0	Rhizoctonia Root Rot (Rhizoctonia solani)	
0	Soilborne Mosaic Virus (SBMV)	O	Black Chaff (Xanthomonas campestris pv. translucens)	
0	Wheat Yellow (Spindle Streak) Mosaic Virus	O	Bacterial Leaf Blight (Pseudomonas syringae pv. syringae)	
٥	Wheat Streak Mosaic Virus (WSMV)	0	Other (Specify)	
0	Other (Specify)	0	Other (Specify)	
0	Other (Specify)	0	Other (Specify)	
o	Other (Specify)	Ø	Other (Specify)	
5. INSECT: (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)				
[77]			IOTYPE (where needed)	
1	Hessian Fly (Mayetiola destructor)		Other (Specify)	
2	Stem Sawfly (Cephus spp.)	0	Other (Specify)	
D	Cereal Leaf Beetle (Oulema melanopa)	0	Other (Specify)	

Triple IV

200500022

Exhibit C (Wheat)

15. INSECT: (continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant

PLEASE SPECIFY BIOTYPE (Where Needed)

O Russian Aphid (Diuraphis noxia)

O Greenbug (Schizaphis graminum)

O Aphids

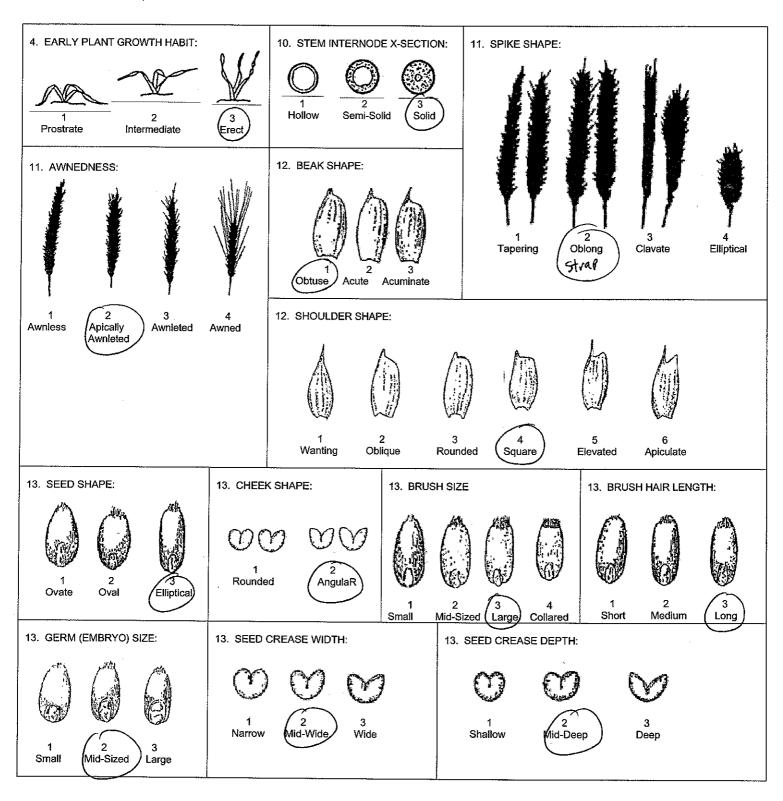
O Other (Specify)

O Other (Specify)

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

WHEAT DESCRIPTOR ILLUSTRATIONS

Section Numbers Correspond to the Numbers of the Sections on the Form



REPRODUCE LOCALLY. Include form number and edition date on al	reproductions. Fe	ORM APPROVED - OMB No. 0581-0055
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to dete certificate is to be issued (7 U.S.C. 24 confidential until the certificate is issue	21). The information is held
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3, VARIETY NAME
WestBred, LLC	OR EXPERIMENTAL NUMBER BZ 996-444	Triple IV
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
	(406) 587-1218	(406) 586-8247
8111 Timberline Drive Bozeman, MT 59718-8184		(400) 360-6247
	7. PVPO NUMBER 20050	0022
8. Does the applicant own all rights to the variety? Mark an "X" in the	e appropriate block. If no, please explai	n. YES NO
9. Is the applicant (individual or company) a U.S. national or a U.S. b	pased company? If no, give name of co	ountry. YES NO
10. Is the applicant the original owner?	NO If no, please answer <u>one</u> o	of the following:
a. If the original rights to variety were owned by individual(s), is (YES	NO If no, give name of count	у
b. If the original rights to variety were owned by a company(ies) YES	, is (are) the original owner(s) a U.S. bas NO If no, give name of country	
11. Additional explanation on ownership (Trace ownership from origin		
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not licens	sees) who meet the following criteria:	
If the rights to the variety are owned by the original breeder, that penational of a country which affords similar protection to nationals of a country which affords similar protection.	erson must be a U.S. national, national of f the U.S. for the same genus and specie	of a UPOV member country, or es.
If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a c genus and species.	yed the original breeder(s), the company country which affords similar protection to	must be U.S. based, owned by particular and an articular and the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the	original owner and the applicant must me	eet one of the above criteria.
The original breeder/owner may be the individual or company who dir Act for definitions.		
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, control number. The valid OMB control number for this information collection is 0581-0055, including the time for reviewing the instructions, searching existing data sources, gathering a	I he time required to complete this information collect	ing in antimated to average Off bases are assessed
The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and a marital or family status, political beliefs, parental status, or protected genetic information. (Ni communication of program information (Braille, large print, audiotape, etc.) should contact Us	ctivities on the basis of race, color, national origin, ger	nder, religion, age, disability, sexual orientation,
To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-V 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.		